Biscayne Bay Coastal Wetlands Rehydration Pilot Project

Stakeholder Meeting
November 4, 2009

MWH

MIAMI-DADE COUNTY

Agenda

- Introduction and Project Overview
- Stakeholder Involvement
- Project Overview
- Water Quality
- Process Evaluation
- Monitoring and Testing
- Future
- Break
- Q & A
- Conclusion

Project History

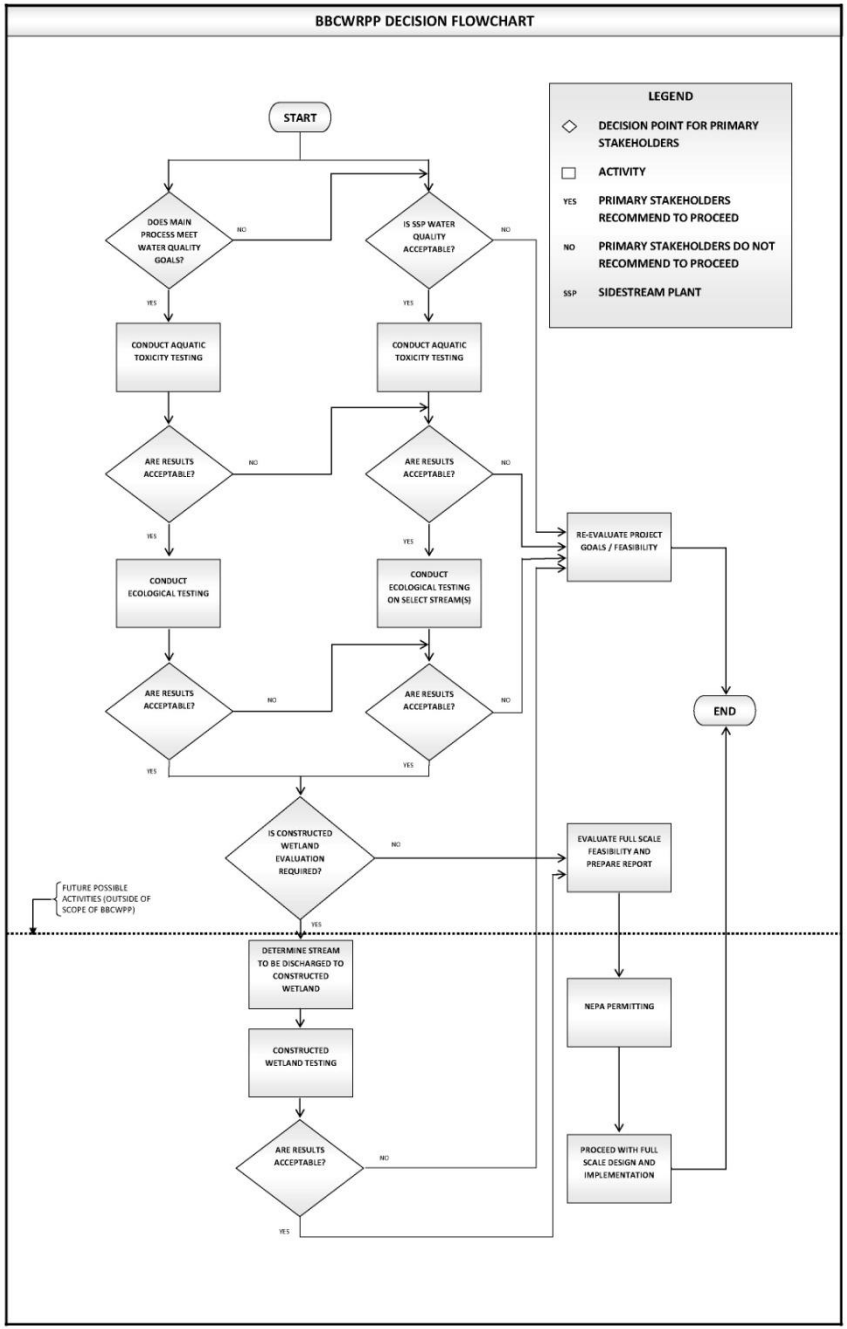
- Conceptual Plan November 2007 – 0.23 mgd pilot)
- WUP—November 2007
  - BBCWRPP listed as limiting condition
- Contracting and selection
- Current project—BBCWRPP February 2009

Critical Project Condition: WUP LC43

- *"…the Permittee shall develop and complete a pilot testing program in consultation with the SFWMD, FDEP and BNP. Following the pilot testing program, the parties shall agree on the water quality treatment required and the feasibility of this project on or before January 15, 2011"*

- WASD commitment
  - have the pilot plant constructed
  - have produced water quality data from the pilot plant effluents for evaluation by the Stakeholders.

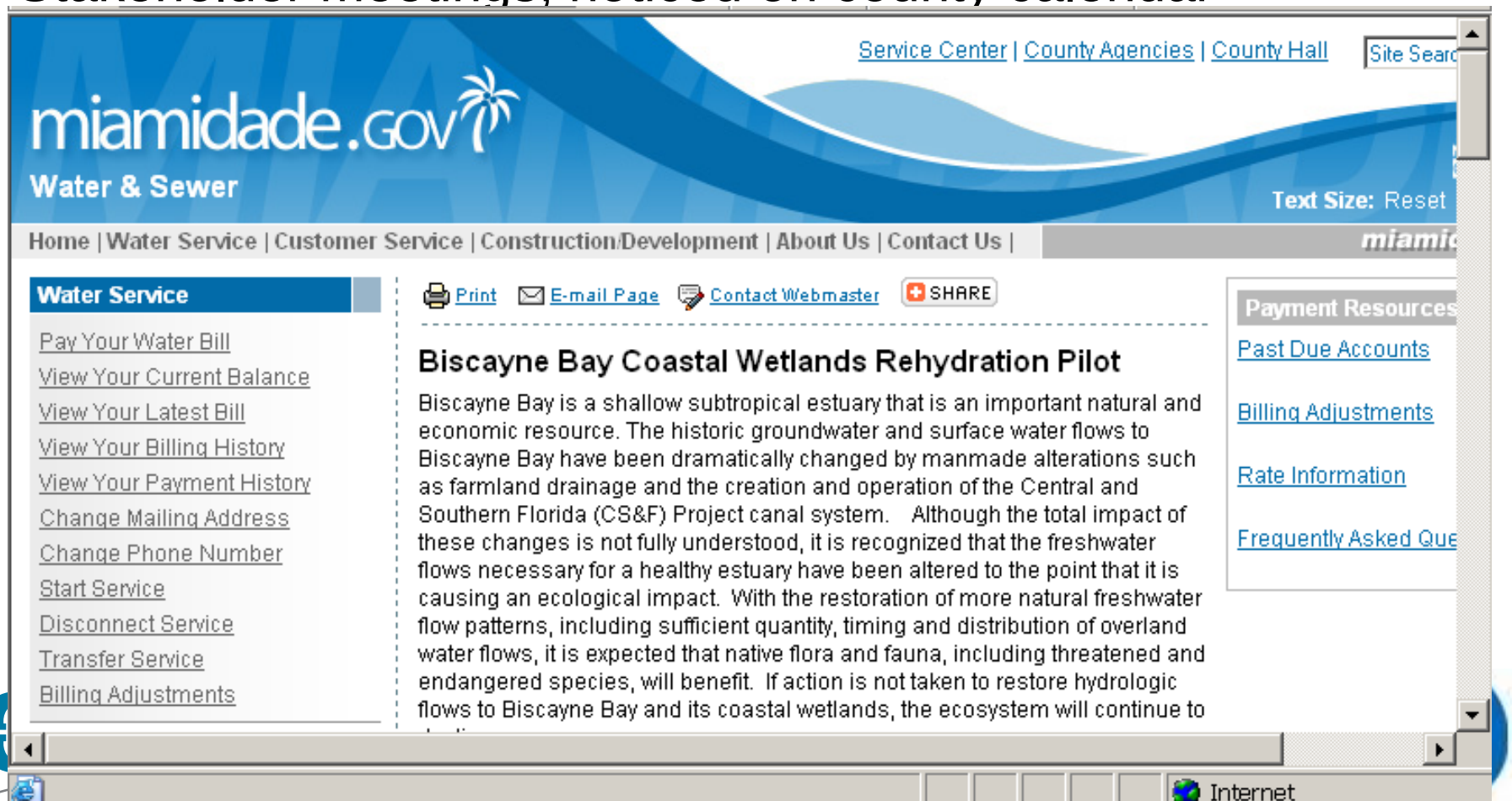
Project Decision Tree



See handout

Project Communications

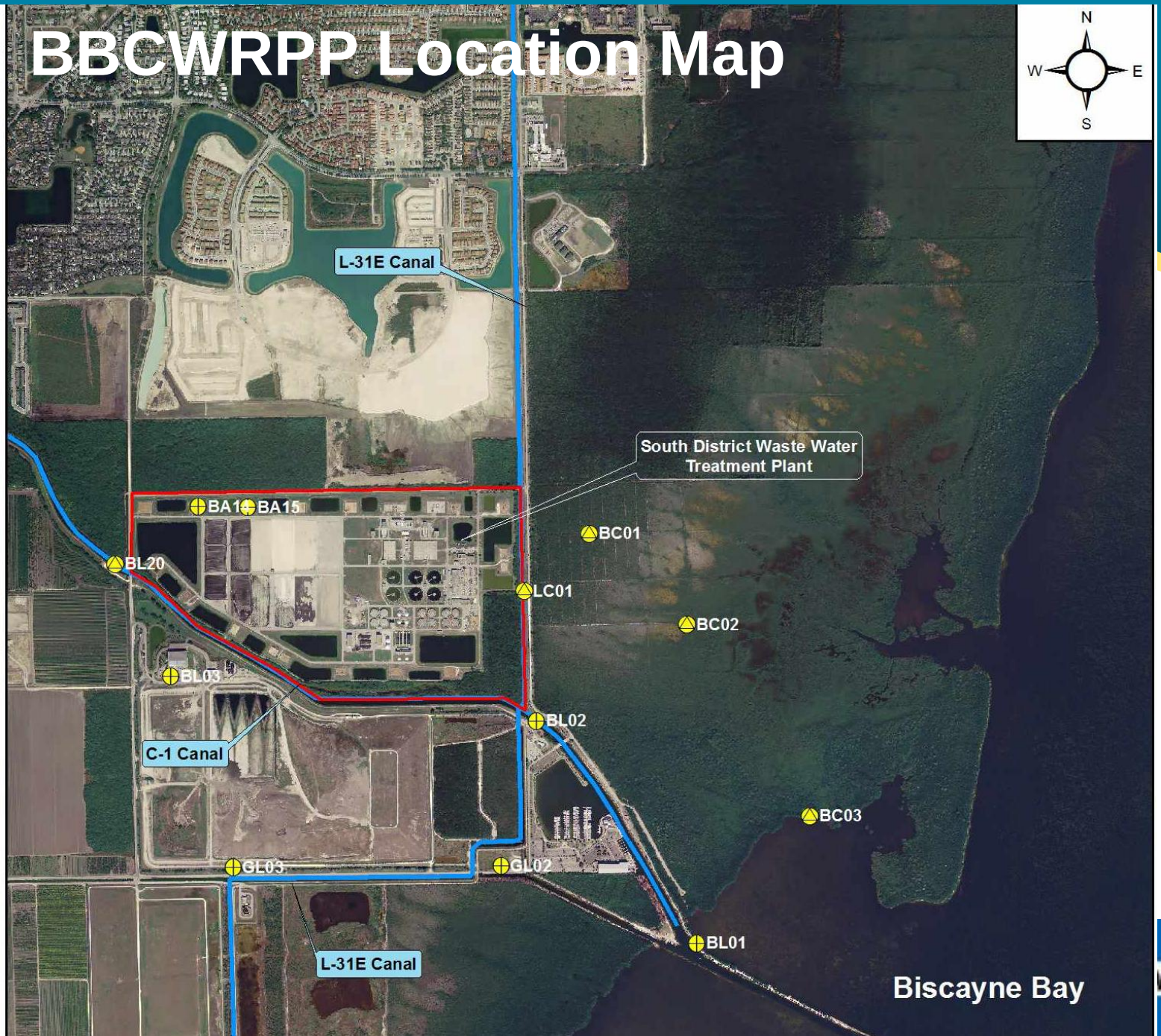
- http://www.miamidade.gov/wasd/water_wetlands.asp
- Stakeholder meetings, noticed on county calendar



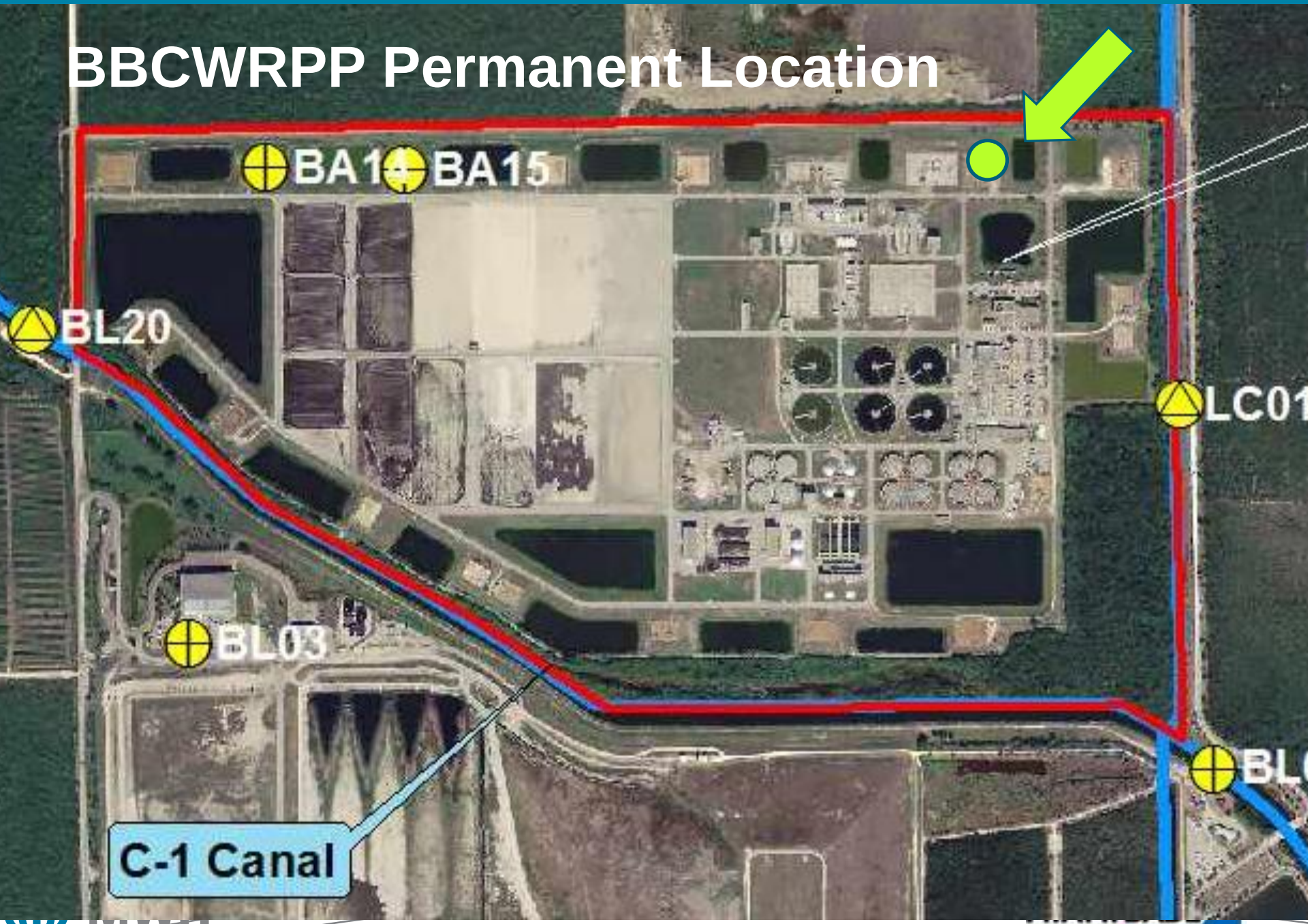
Overall Project Timeline

- Pilot Plant Constructed and Operational 1 Qtr 2010
- Start Water Quality Testing 1st Qtr 2010
- Obtain 6-9 months water quality data before Jan 2011 deadline

BBCWRPP Location Map



BBCWRPP Permanent Location



Actions in 2009

- Meeting Summaries with Technical Workgroups
- Engineering Reports:
  - Technical Memo #1—Water Quality
  - Technical Memo #2– Process Technology
  - Preliminary Engineering Report

Technical Memo # 1—Water Quality

- Documents influent water quality
- Summary of effluent water quality requirements for the pilot plant
- The forthcoming ecological microcosm tests should help to address the required water quality.
- Develop a number of treatment processes that could produce water quality within this range (subject of Technical Memorandum No. 2 Process Technology Assessment).

Previously Accepted Water Quality Targets

Parameter/Units	FDEP Reuse	FDEP Wetlands Application	Class III/OFW*
TSS, mg/L	5 (1)	5	3.5
CBOD5, mg/L	20 (2)	5	
Total Nitrogen, mg/L		3	0.27
Total Phosphorous, mg/L		1	0.005
Fecal Coliform, #/100 ml	<1.0	<1.0	<1.0
Total Ammonia-N, mg/L			0.02 -0.05 (3)
Nitrate/Nitrite, mg/L			0.01
TKN, mg/L			0.22
Ortho-P, mg/L			0.002
Dissolved Oxygen, mg/L			5.0-7.3
Turbidity, NTU			0.5
Salinity			(4)
pH range			6.5-7.5
Heavy Metals	(6)	(7)	(5)
Microconstituents			(5)
Cryptosporidium and Giardia			(5)

Footnotes to previous slide

Notes:

- 1) Represents single sample maximum
- 2) Represents annual average
- 3) Dependent on sample method of collection and analysis
- 4) Background salinity shall not change by more than 5 ppt
- 5) See Tables in Appendix
- 6) Reference FAC 62-610
- 7) Reference FAC 62-611
- *) Targets previously proposed under CERP program. Final goals will be developed with input of forthcoming ecological studies.

Technical Memo #2—Process Evaluation

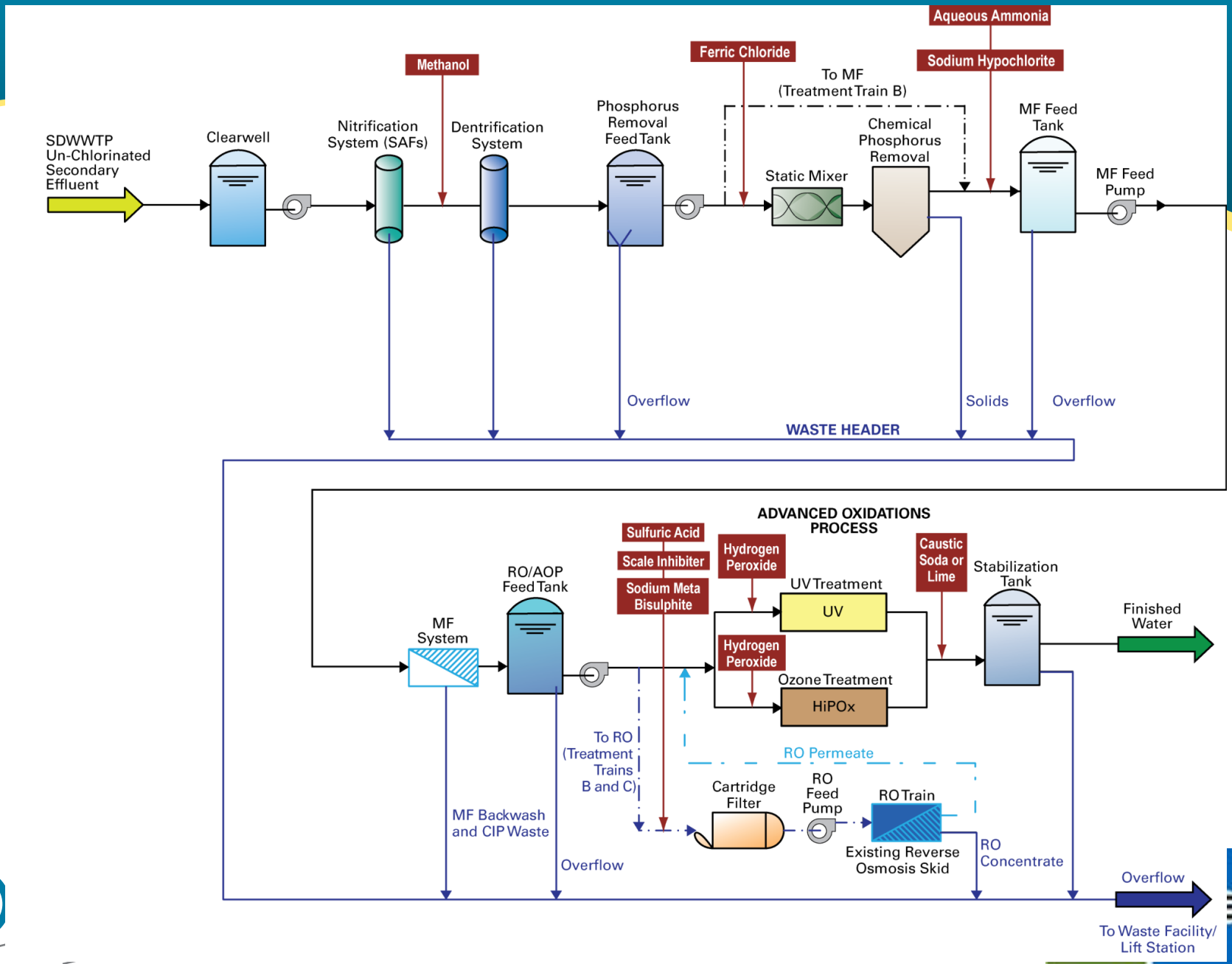
- Addresses advanced wastewater treatment processes and technologies capable of meeting water quality requirements
- A literature review assessed original treatment process recommendations
- Many baseline processes can be considered for future pilot studies, with some exceptions.

Process Evaluation

- Evaluation Approach—focus on process and desired reduction/targeted parameters

- Project philosophy/purpose
  - Determine the effect of treated water on controlled ecosystem
  - Based on ecosystem results, determine appropriate water quality parameters and criteria

BBCWRPP Treatment Train



Baseline Monitoring, Aquatic Toxicity and Ecological Testing

- Baseline Monitoring—establish background conditions
- Aquatic Toxicity Testing Plans—develop with FIU (Dr. Gary Rand) and Stakeholder Feedback
  - 1st Step Screening
- Ecological Testing-- Plans—develop with FIU (Dr. Gary Rand) and Stakeholder Feedback
- Peer Review Panel

Miami-Dade WASD/ USGS 2009 Microconstituents Study

Test for organic wastewater compounds, antibiotics, hormones, and pharmaceuticals in wastewater, drinking water, canal, and groundwater in Miami-Dade County

USGS collected 220 analytes in water and approximately 80 analytes in sediments from:

- Raw and finished water at seven MDWASD drinking water facilities:
- Influent and effluent at the South District WWTP
- Water and sediment from the Snapper Creek canal

Next Steps

- Technical Sessions/Working Meetings
- Aquatic Toxicity and Testing Plan
- Draft Ecological Monitoring (Baseline) Monitoring

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